Crops, Soils and Fertilizers

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Inquiries of Progressive Farmer readers cheerfully answered.

FUNGICIDES AND SPRAYING.

III. Ammoniacal Solution of Copper Carbonate.

Editors Progressive Farmer:

This solution contains no sediment of any kind, and upon drying, leaves no marks upon the fruit. It may, therefore, be used upon fruits in the latter stages of their ripening when the spotting that the bordeaux mixture causes would preclude the use of that fungicide.

The mixture consists of a solution made by dissolving copper carbonate in ammonia water in the following proportions:

Copper carbonate	6 ounces.
Ammonia, about	3 pints.
Water	50 gallons.

In preparing this solution, weigh out the proper amount of copper carbonate, set a very small portion of this aside, and dissolve the remainder of it in ammonia, using only enough ammonia to dissolve it, and then add the portion of copper carbonate which was reserved. This will insure that you use no more ammonia than is necessary. It is better to have a little too much of the carbonate in the solution than to have too much of the ammonia. A strong solution made in this way can now be diluted with the proper amount of water. The copper carbonate may be purchased directly from a drug store, or it may be prepared on the farm.

To make copper carbonate, proceed as follows: Dissolve ten pounds of copper sulphate (blue stone or blue vitriol) in ten gallons of water. Also dissolve twelve pounds of carbonate soda in the same amount of water. Allow these two solutions to cool, and then mix them slowly together, stirring in the meantime. Allow the mixture to stand about twelve hours to settle; then pour off the liquid and add water in amount equal to the liquid poured off. Stir thoroughly and allow it to stand as before. Repeat this operation again and then drain off all the liquid possible, and dry the blue powder which remains. This powder is the copper carbonate.

THE COPPER SULPHATE SOLUTION.

A solution consisting of merely copper sulphate and water may be used before the leaves appear to kill the spores on the trunks and branches of the trees.

Copper sulphate	1 pound.
Water	15 gallons.

Dissolve the copper sulphate as you do in preparing the bordeaux mixture. Dilute it to the required strength, and spray upon the trees. The addition of a little lime here, say half a pound to fifty gallons of mixture, enables the operator to see exactly what portions of the tree have been sprayed.

This mixture must not be used after the leaves appear.

POTASSIUM SULPHIDE SOLUTION.

Potassium sulphide or liver of sulphur	1 ounce.
Water	2 to 4 gallons.

This solution should be freshly prepared. It is used as a substitute for the bordeaux mixture in the same way as the ammoniacal solution of copper carbonate is used when the fruit has become so large that the bordeaux mixture must be discontinued to avoid spotting. Potassium sulphide is especially efficient as a protection against the powdery mildews.

FORMALIN.

Formalin is a very powerful germicide which recently came into wide use. Its interest to the farmer lies chiefly in its value in preventing the potato scab, the onion smut, and the various smuts of cereals. Full directions for using this are found in other bulletins of this Station.

Two forms of this substance appear on the market. One under the name of formalin and the other under the name of 40 per cent formaldehyde. These substances are absolutely identical, and as the 40 per cent formaldehyde is cheaper, owing to the fact that the word formalin is protected by a patent, the farmer of course will do well to use the 40 per cent formaldehyde.

F. L. STEVENS,
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Specialization in Farming.

Editors Progressive Farmer:

Something I think that our farmers try to do too many things. There is no other business in which success requires such skill, experience and knowledge as farming, when the several branches are carried along together as is commonly done by our country people. What I mean by branches is such as sheep raising, the raising of swine, the growing of tobacco, etc. Of course, it would be impracticable to take only one branch, and it is just as unreasonable to try to succeed by taking them all.

Let each farmer carry along the crops and raise the stock that is necessary to sustain the farm and then make a specialty of some crop that he thinks most profitable to him. In making your choice, you should be very careful and use your best judgment. You should not only think considerably over the subject, but consult statistics and experienced men, for on this crop depends your profits and losses.

Now suppose, for example, you have had considerable experience with onions. All right, we will consider that crop. First, does it suit your land? Get your Bulletin on Truck Farming, if you haven't learned by experience, and see. You find the crop grows best on a mellow loam pertaining to sand. That suits your farm. You have averaged growing one hundred and thirty-six bushels to the acre, or you have seen from the twelfth census that the State averaged one hundred and thirty-nine bushels and your county averaged one hundred and forty. One hundred and thirty-six bushels, at seventy-five cents per bushel, equals one hundred and one dollars per acre (seventy-five cents being the value of onions in this State according to the twelfth census). Compare this with some other crops.

Again you notice there were about 12,000,000 bushels raised in the United States in 1899; and 5,200,000 bushels, or nearly half of the total crop, was raised in twenty-five counties. These figures show a great concentration of the crop to a limited area that makes a specialty of growing this crop for the general market. This proves that some one is making a profit by specializing on this particular crop.

These twenty-five counties are found mostly north the "Mason and Dixon line," or west of the Mississippi, thus not interfering with our trade very much, as is shown by the difference in value in the different States. In Vermont they are fifty-six cents per bushel, while in Georgia and Florida they are one dollar per bushel.

These twenty-five counties also average 369 bushels—double the number of bushels per acre of all the other counties of the United States. Does this suggest that by proper preparation and cultivation of the soil that you can double your crop per acre? I should think so. Then we have two hundred and seventy-five bushels at seventy-five cents equals two hundred and two dollars.

Now recompare your crops and decide which is the most profitable. For instance, if you compare with tobacco, take cost of commercial fertilizers, work, time of harvest, consider if it interferes with the harvesting of the corn, as tobacco does, etc., effects on the soil, advantage and disadvantage of the rotation of the different crops, danger in failure of crop, marketing, income, etc.

The above is simply a method of considering any crop. I believe if it were adhered to closely that our crops would be more varied, our farmers would specialize more and have greater success along their several lines.

J. MOTT LINDSAY.

PLENTY OF FORAGE.

Any Farmer Can Fill His Barns With Oat Hay and Grasses—A Word About Silos and Ensilage.

Editors Progressive Farmer:

Christmas week a field was seeded with rust proof oats. Very good preparation was given this field and a liberal dose of manure spread evenly and harrowed in kept the oats growing fast. Two bushels of seed per acre was sown.

The second week in June this oat crop was five feet tall, very even growth and a pretty sight. When grain was in the "dough," the crop was cut for hay, cured in cocks, and put in the horse barn.

I lift my hat right now to oat hay, and if my work stock could express their appreciation in a polite way, each animal would make a Chesterfieldian bow. Their fine condition, quick step, sleek coats all testified to the value of this oat hay.

The digestible contents of oat hay is given as follows: Organic matter, .849 per cent; protein, .047 per cent; carbohydrates, .469 per cent; fat, .015 per cent. That is a pretty good showing.

July 1st this oat stubble showed green with rag weed eight or ten inches high. The mowing machine clipped this close to the ground, the cutting was cured and hauled to cow barn where it was fed to the cows, causing an increase in milk yield.

The third crop this year from this field was cut September 8th, being a magnificent growth of native grasses four feet tall and as thick as I ever saw. Two good mules had all they could do to keep the machine going.

The object of this writing is to show farmers how simple is the way to provide plenty of hay. Land well prepared, liberal manuring, careful curing of the crops—that is all.

Thursday I drove eight miles to visit my son to see if he will have any cow feed next winter for his cows; from what I saw I think he will be ready to feed a few cows. His corn for silage is an immense growth. One field of twenty acres is extra fine: the rows are four feet wide, plants in drill about eight to ten inches, corn ten feet tall, and for silage use is well eared. He is just finishing a silo. It is round, twenty feet in diameter, twenty-six feet deep, and calculated to hold 150 tons of silage. The silo is being erected eight feet from end of the cow barn. The foundation is a nine-inch brick wall, two feet high. On the wall 2 x 4 twenty-four feet studs were placed sixteen inches apart. On the inside the first course of ceiling was ⅞ and 616-feet boards nailed to every stud; next a cheap quality of tarred paper was tack to the wall; then another course of ceiling plank was put on, making a substantial and tight building. I predict perfect keeping of silage in this tub. The cost will not exceed $125. The corn will be cut with McCormick harvester, then run through a No. 13 Ohio cutter with blower. The machine will be set to cut one-half inch. This fine cutting causes closer packing and more silage may be put into a tub than if cut longer.

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Money in Wheat.

"How is the cotton milling business?" was asked Mr. A. W. Haywood, of Haw River, the other day.

"Slow, slow," said Mr. Haywood, "but there is money in farming—more money than in making cloth you can't sell."

"Why from one hundred and fifty acres of land near Linwood, in Davidson County, I cut 3,772 bushels of wheat this year, which was sold at $1.03 per bushel."

Any one who cares to figure may easily calculate the profits on wheat that is grown in the ground.—News and Observer.